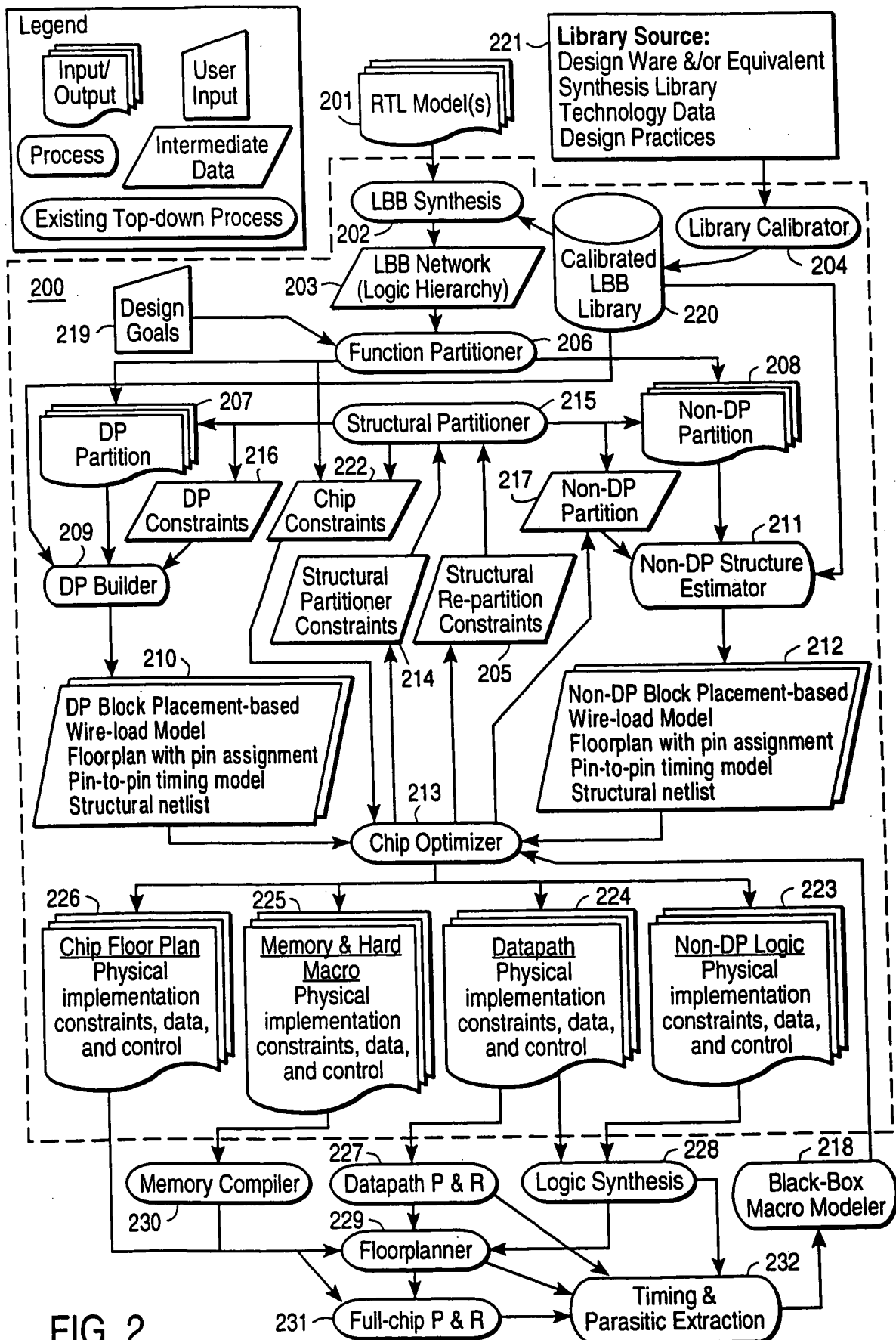


FIG. 1



APPROVED	O.G. FIG.	
BY	CLASS	SUBCLASS
DRAFTSMAN		

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 Title: CREATING OPTIMIZED PHYSICAL IMPLEMENTATIONS
 FROM HIGH-LEVEL DESCRIPTIONS OF ELECTRONIC
 DESIGN USING PLACEMENT-BASED INFORMATION
 Inventor: Tommy K. Eng
 Atty. Docket No.: 21192-06625
 Sheet 3 of 14

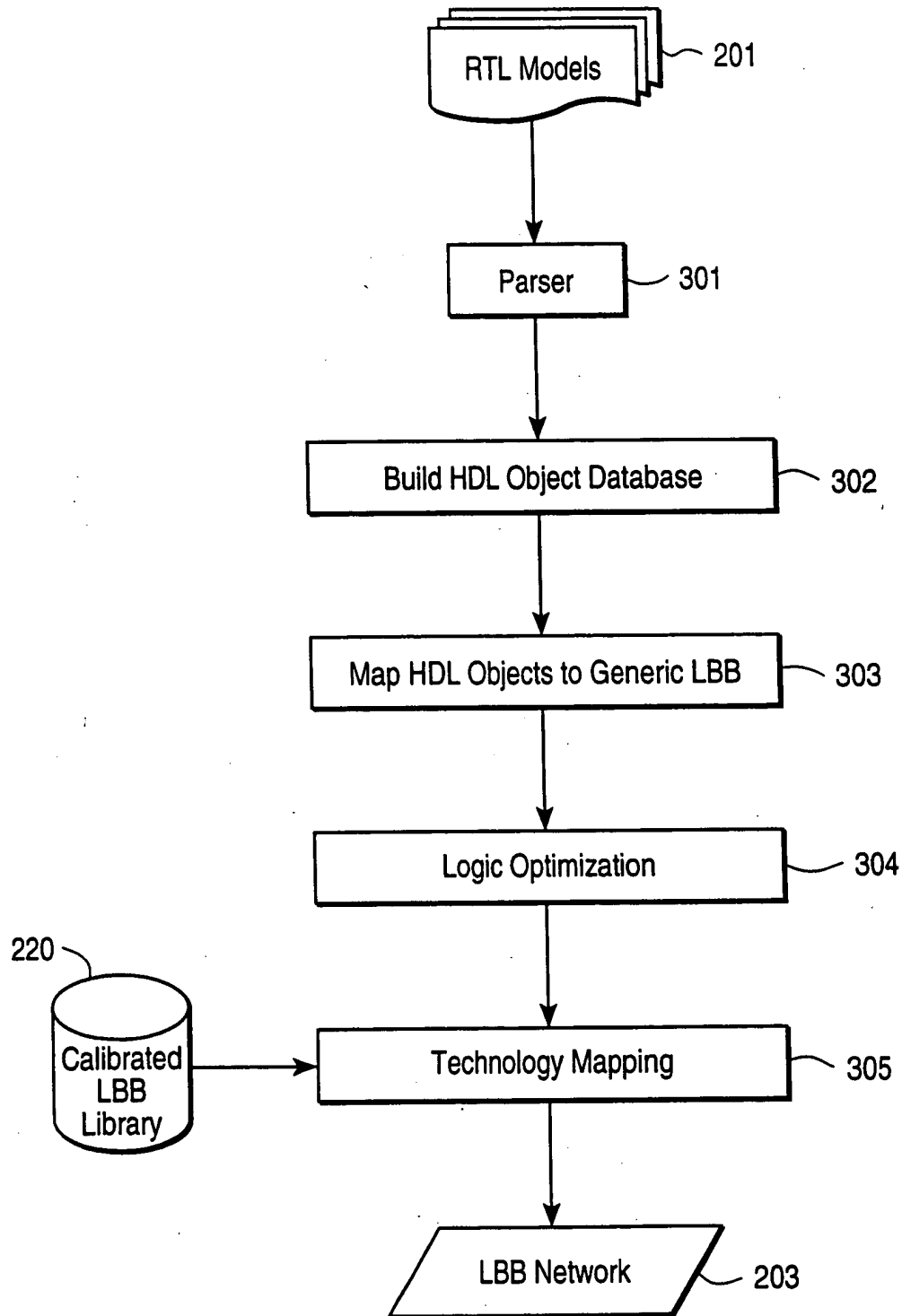


FIG. 3

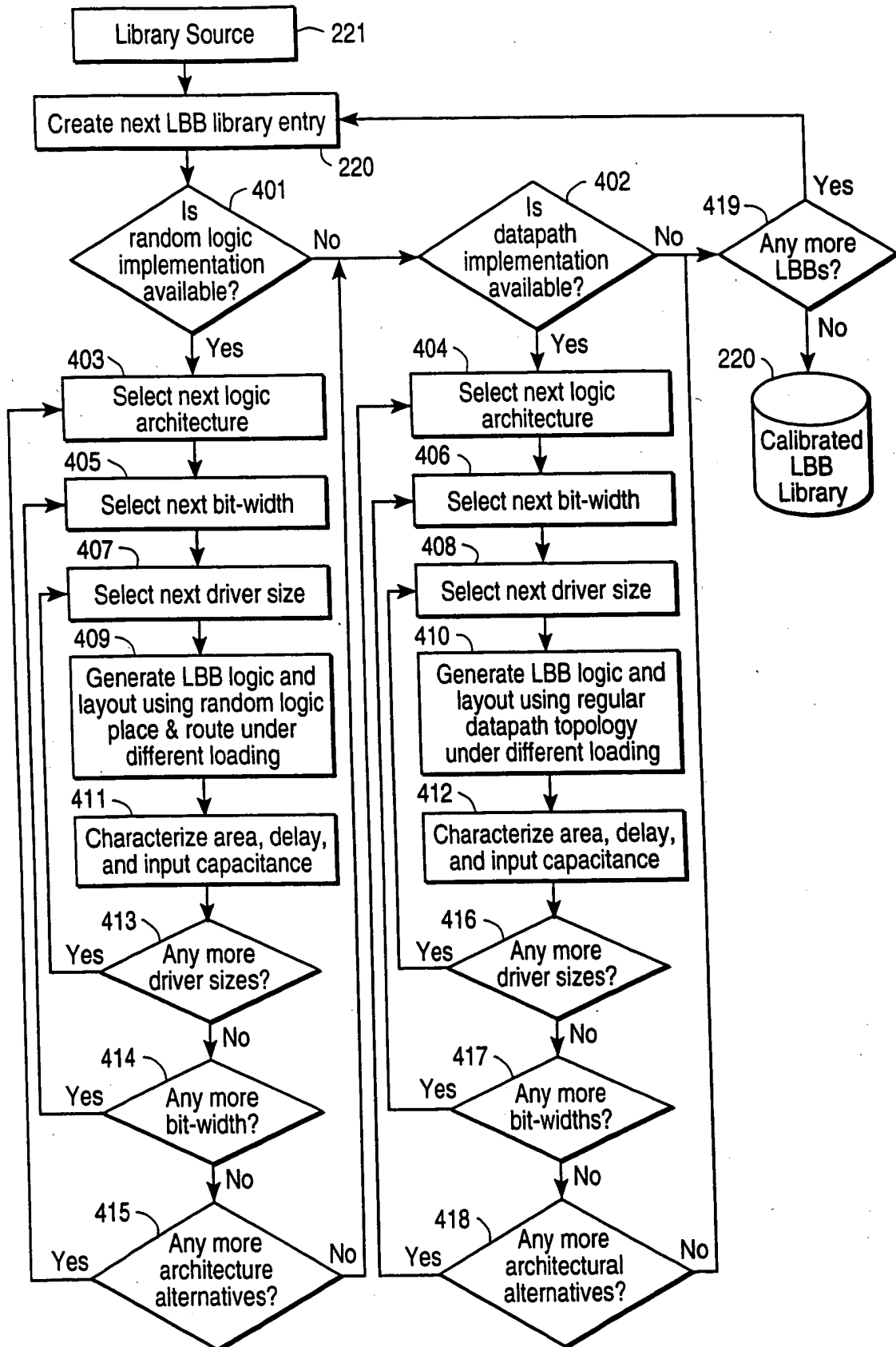


FIG. 4

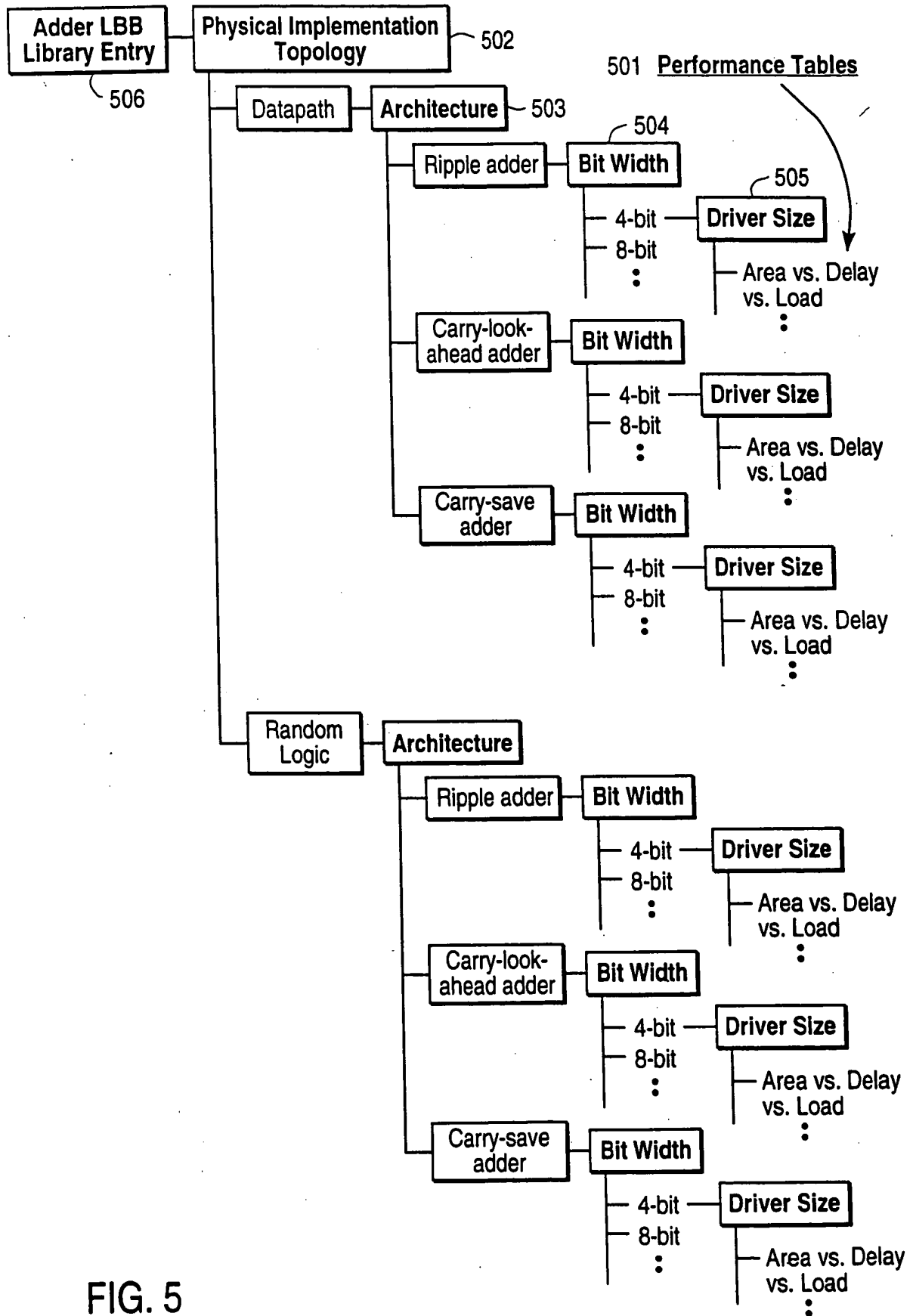
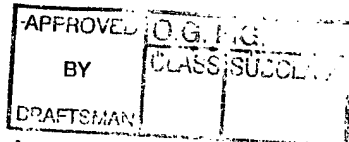


FIG. 5



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Inventor: Tommy K. Eng
Atty. Docket No.: 21192-06625
Sheet 6 of 14

Category	LBB
Adder	Adder, AdderCi, AdderCiCo, AdderCo
Arithmetic	ALU, Modulus, Multiplier, Divider, UnaryMinus
Buffers	Buffer, TriStateBuf
Comparator	Equal, Greater, GreaterOrEqual, Less, LessOrEqual, NotEqual
Complex Logic	Finite State Machine, Hard Macros
Decoder	BinaryDecoder
Decrementer	Decrementer, DecrementerCi, DecrementerCiCo, DecrementerCo
Encoder	BinaryEncoder, PriorityEncoder
Incrementer	Incrementer, IncrementerCi, IncrementerCiCo, IncrementerCo
Logic Gates	And, Nand, Nor, Or, Xnor, Xor, Inverter, And-Or (AO), And-Or-Invert (AOI)
Memory	RAM, ROM, Register File
Mux	Mux, PriorityMux, UnencodedMux (AOI), InvMux, InvPriorityMux, InvUnencodedMux
Reduce Gates	ReduceAnd, ReduceNand, ReduceNor, ReduceOr, ReduceXnor, ReduceXor
Shift	ArithmeticShift, CircularLeftShift, CircularRightShift, ShiftLeft, ShiftRight
Storage	Latch, FlipFlop
Subtractor	Subtractor, SubtractorCi, SubtractorCiCo, SubtractorCo

FIG. 6

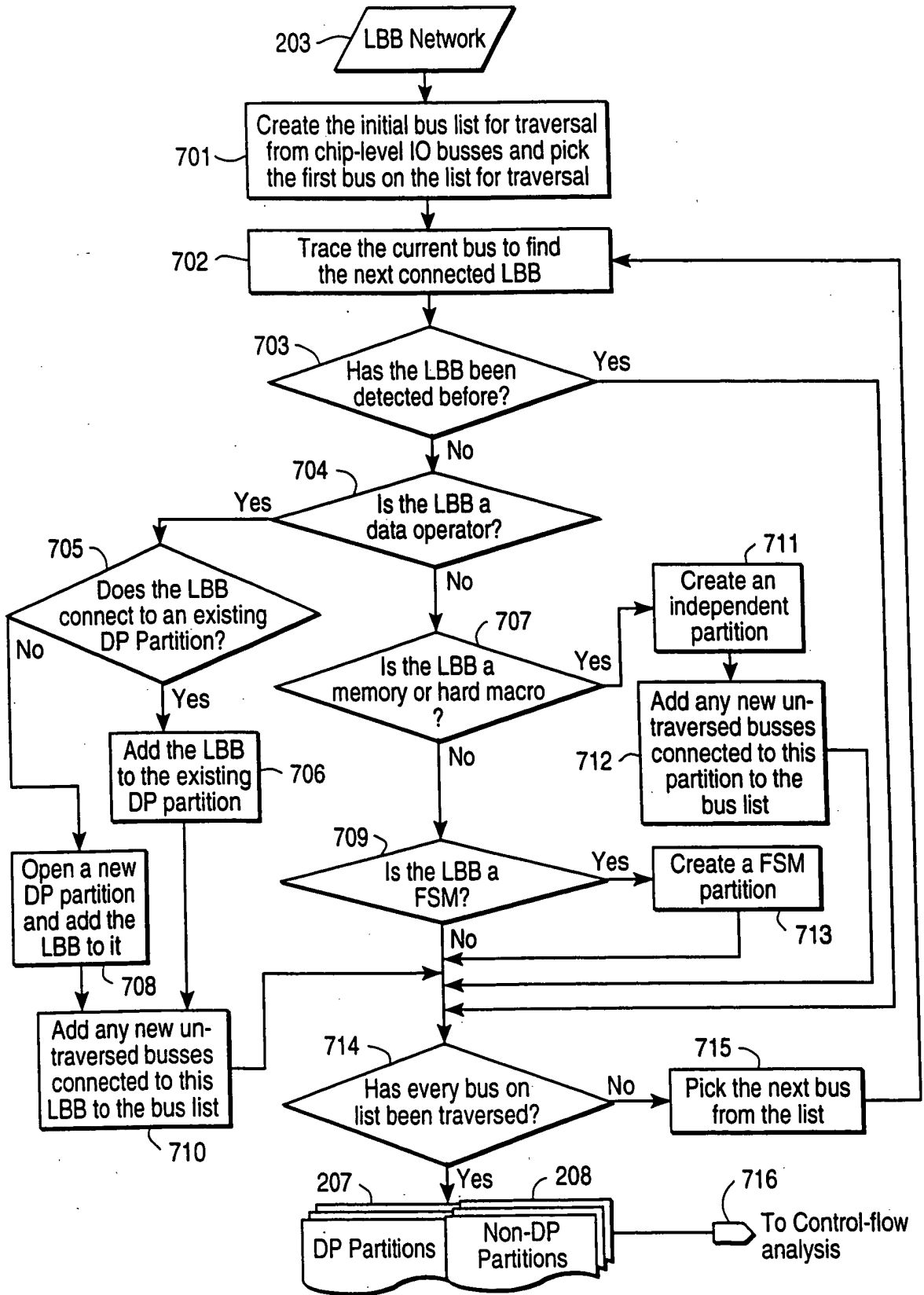


FIG. 7

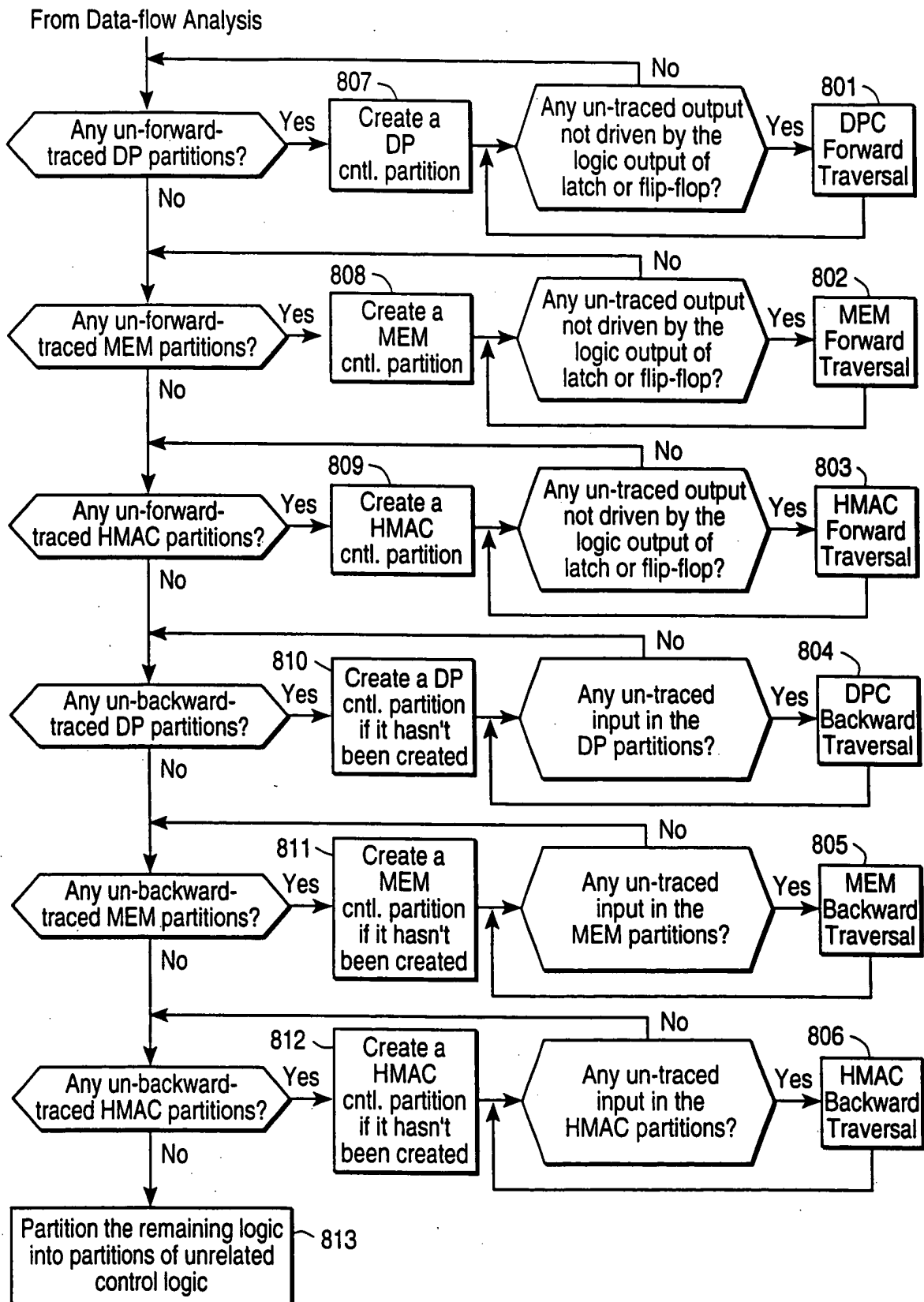


FIG. 8

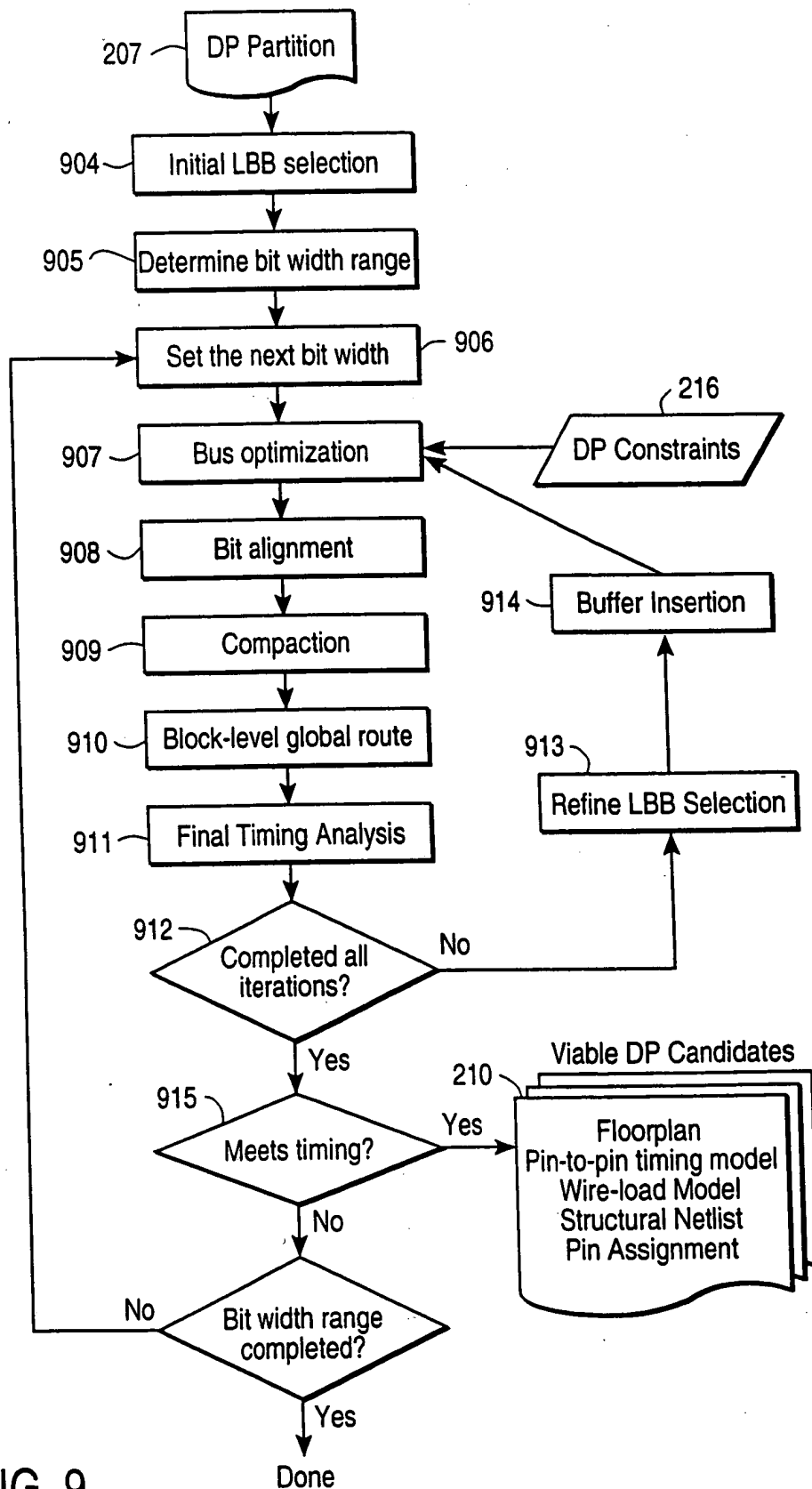
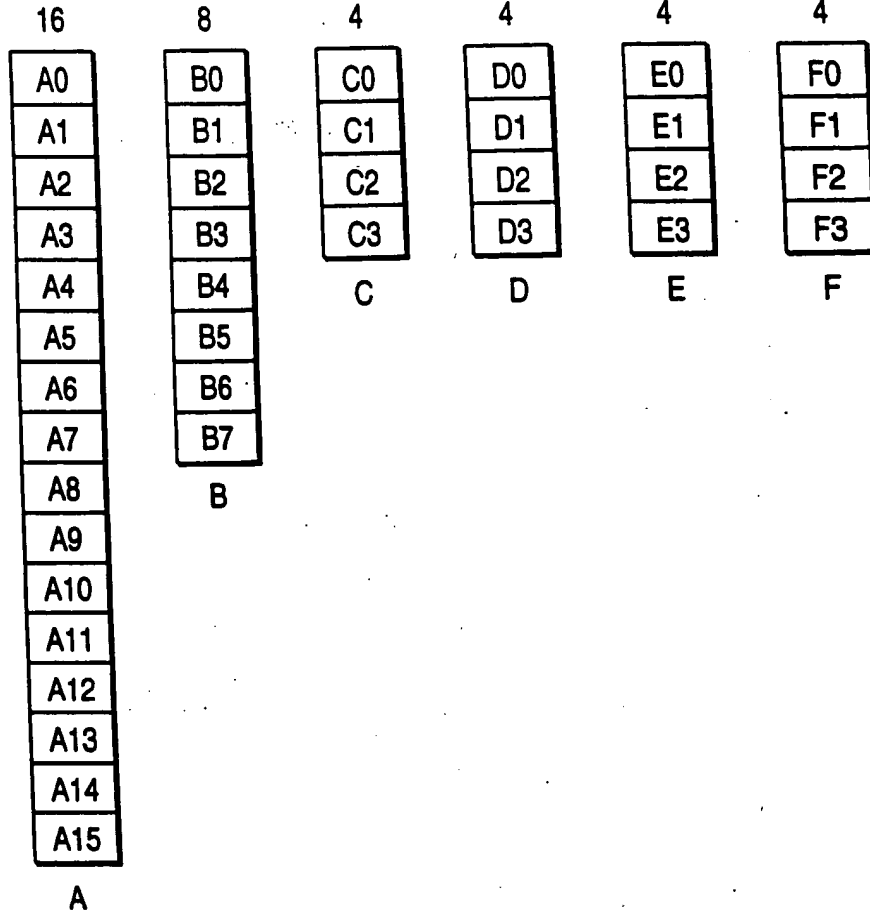


FIG. 9

1003

Bit-width =



Compacted Datapath Floorplan

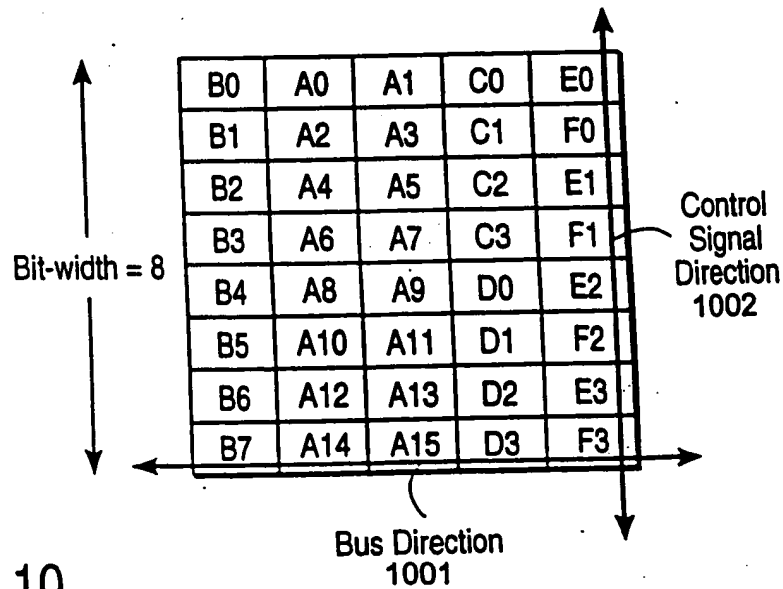


FIG. 10

APPROVAL		
BY	CLASS	SUBCLASS
DRAFTSMAN		

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 Inventor: Tommy K. Eng
 Atty. Docket No.: 21192-06625
 Sheet 11 of 14

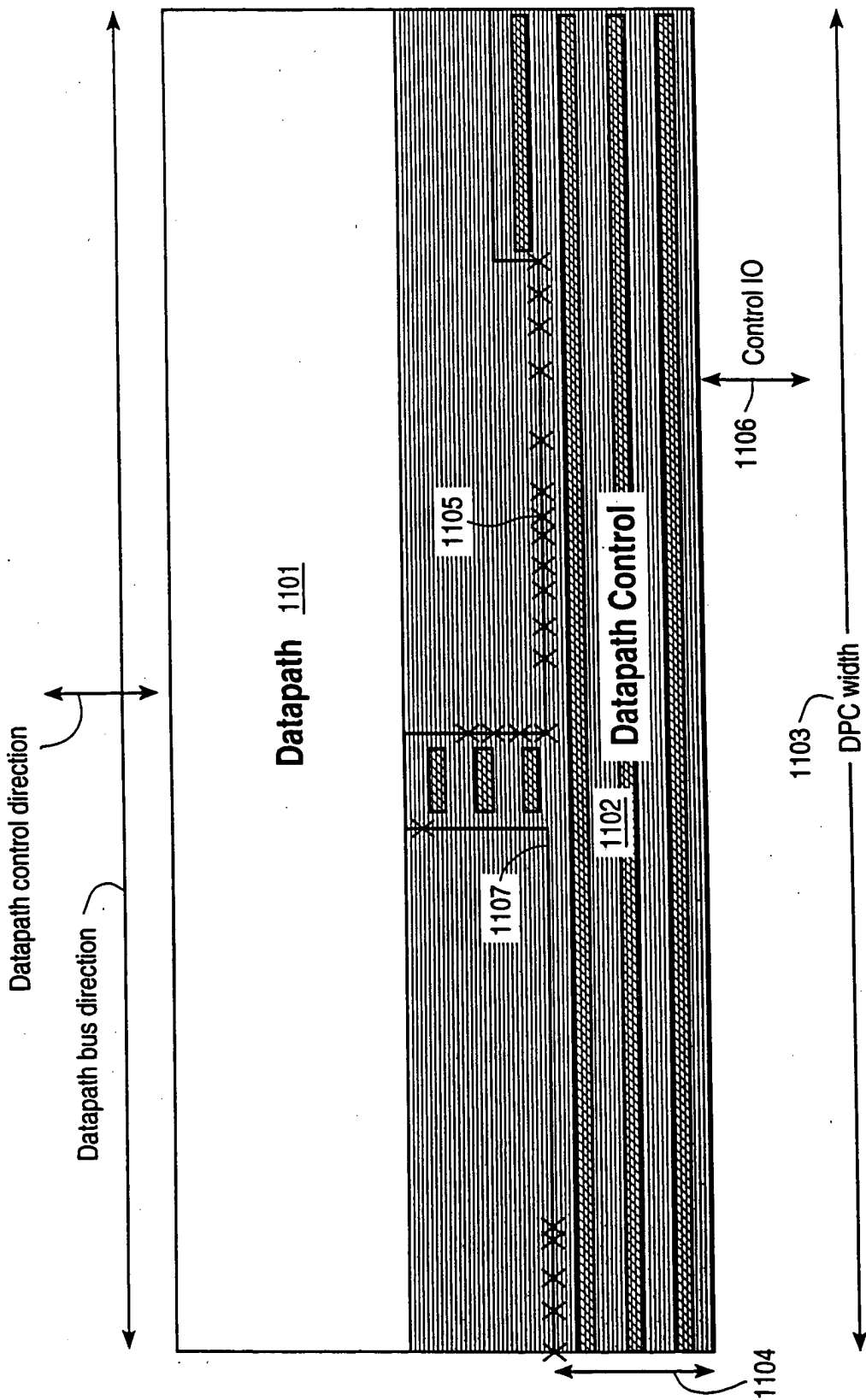


FIG. 11

X = Datapath control signal terminals

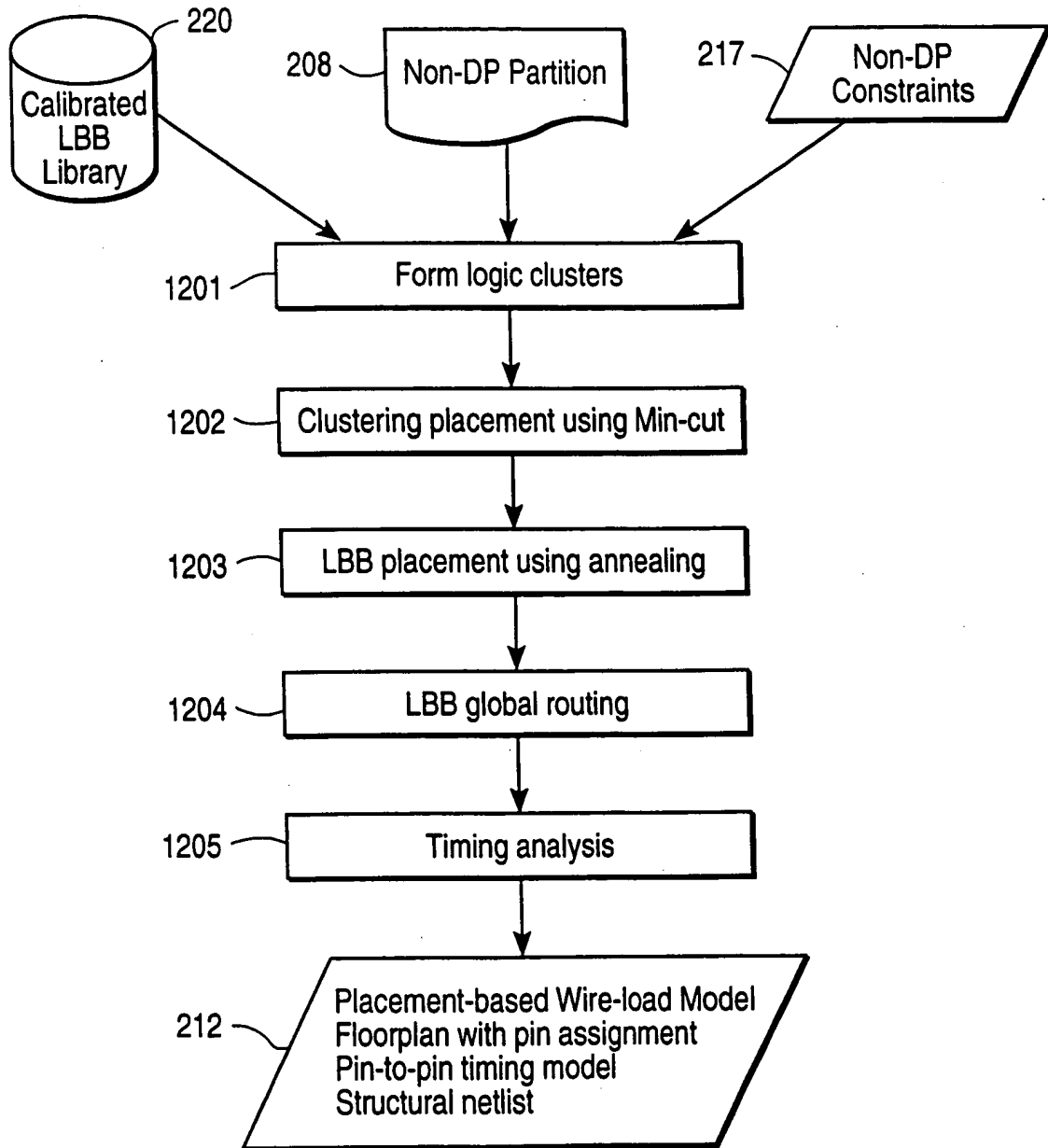


FIG. 12

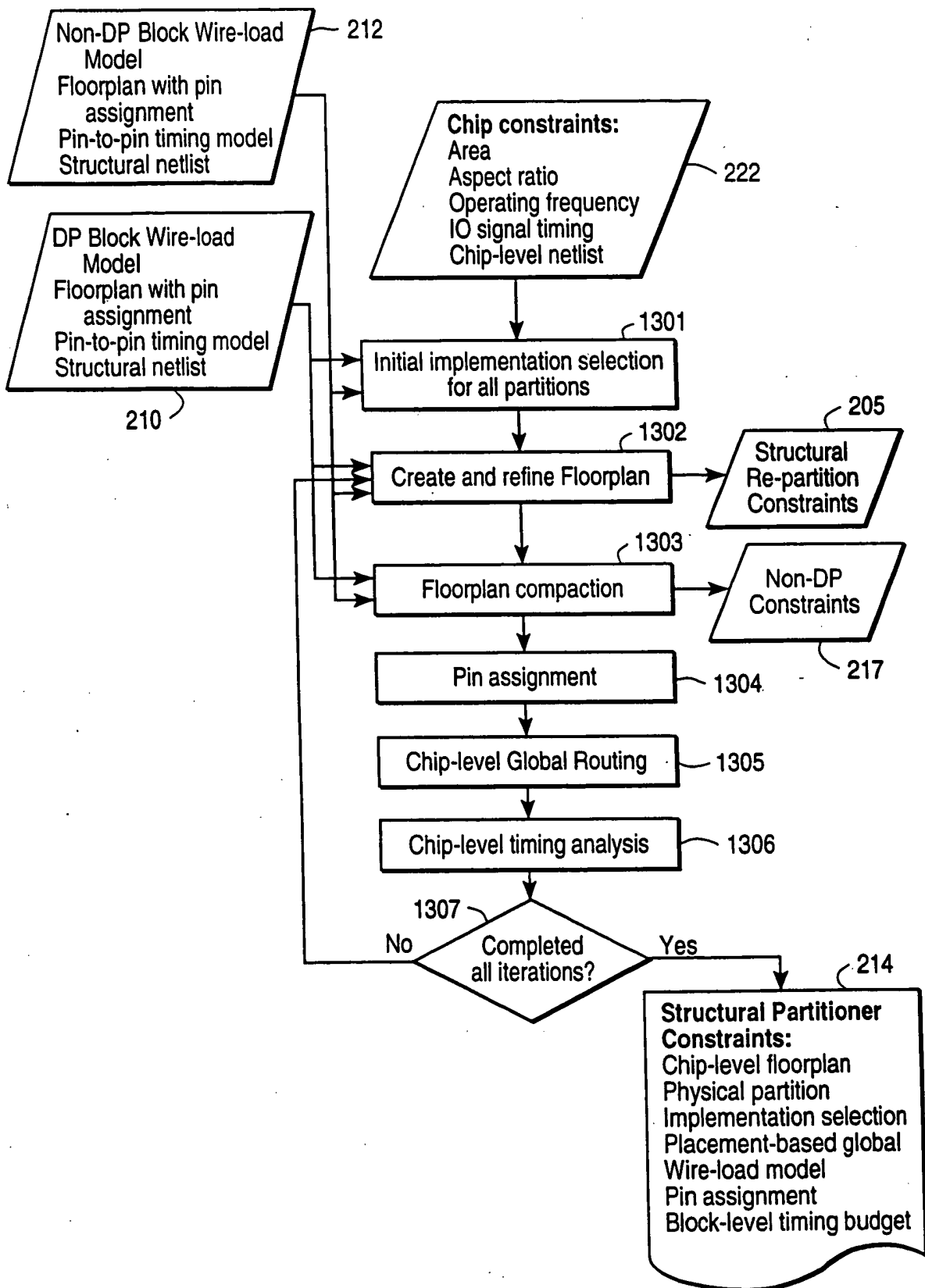


FIG. 13

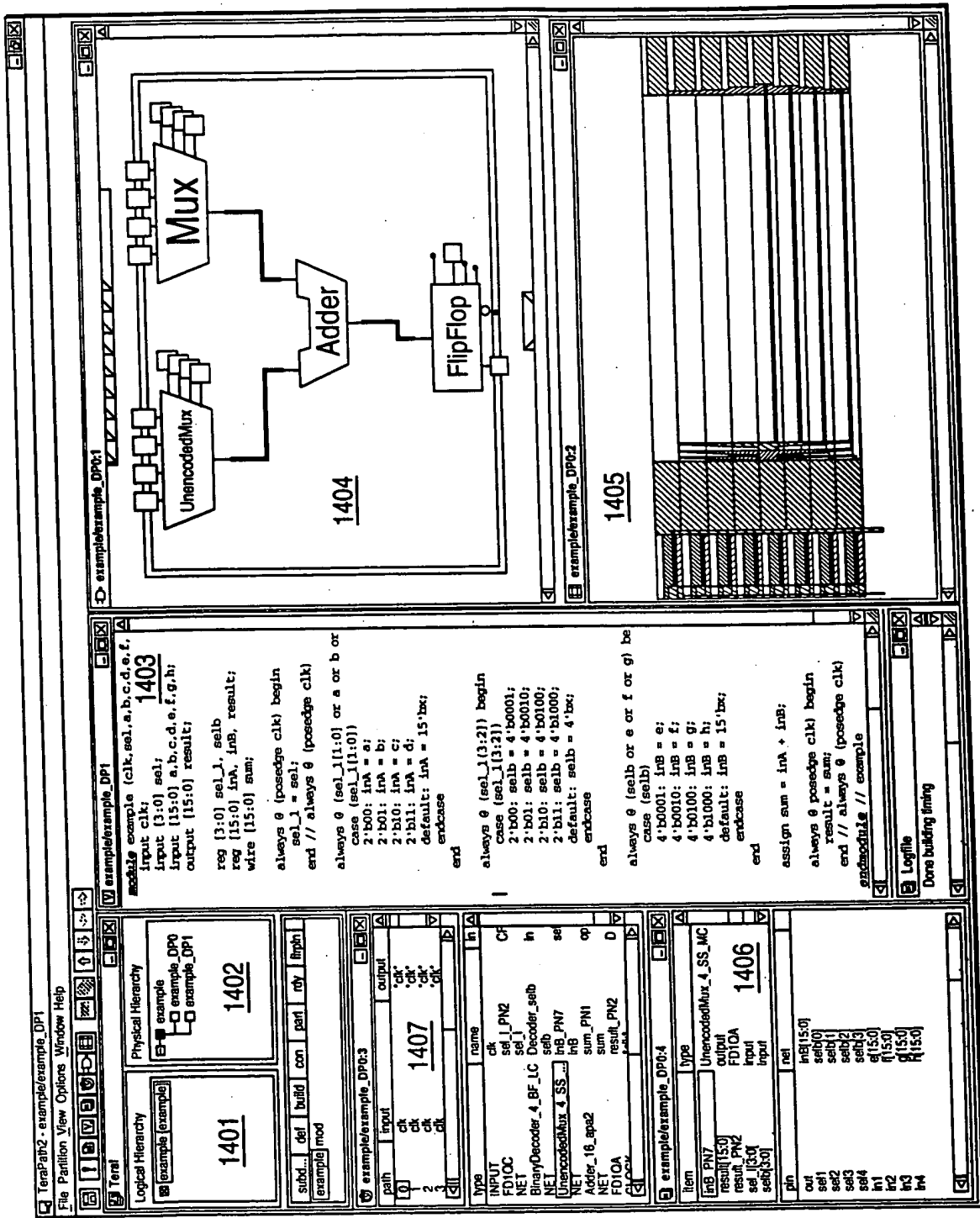


FIG. 14